

CITY OF GROVE CITY, OHIO

Street, Storm, and Water General Notes – Revised October 26, 2015

1. SPECIFICATIONS: The most current City of Columbus and Ohio Department of Transportation (ODOT) “Construction and Material Specifications” (CMSC and ODOT CMS respectively) together with the requirements of the City of Grove City, Ohio, including all supplements thereto, in force on the date of the contract shall govern all materials and workmanship involved in the improvements shown on these plans, except as such specifications are modified by the following specifications, or by the construction details set forth herein. In case of any conflict among these identified technical specifications, the greater requirement shall take precedence (as determined by the sole discretion of the City) unless directed otherwise by the City.

General provisions of the ODOT CMS and the City of Columbus CMSC shall not apply unless specifically referenced. This exclusion includes, but is not necessarily limited to, Division 100 of the ODOT CMS and City of Columbus CMSC.

2. BENCH MARKS: The Contractor shall carefully preserve bench marks, property corners, reference points, and stakes. Any bench mark, property corner, or survey marker damaged or disturbed by the Contractor shall be reset by an Ohio Registered Surveyor at the Contractor's expense.
3. SAFETY REQUIREMENTS: The Contractor and any and all Subcontractors shall be solely responsible for complying with all federal, state, and local safety requirements, together with exercising precautions at all times for the protection of persons (including employees) and property. It is also solely the responsibility of the Contractor and Subcontractor to initiate, maintain, and supervise all safety requirements, precautions, and programs in connection with the work, including all OSHA rules and regulations.
4. PERMITS: The Contractor or Developer shall secure and pay for all permits and government fees, licenses, and inspections necessary for the proper execution and completion of the improvements shown on the plans.
5. NOTIFICATION: The Contractor shall notify the City at least 48 hours in advance (holidays and weekends excluded) of the anticipated start of work requiring inspection, testing, or approval by the City. Work shall not commence until a pre-construction conference is held. The Contractor or Developer shall supply three (3) copies of the approved construction plans, along with one (1) electronic copy of all plan sheets (.tif format), to the City, and one (1) copy of the plans to the Director of Public Service one (1) week prior to the pre-construction conference.

The Contractor must notify all adjacent landowners a minimum of one (1) week in advance of work near their property. The Contractor must coordinate with the City for a suggested format for the notice. Notices shall not be sent out until reviewed by the City.

The Contractor must provide pre-notification of work no less than Forty-Eight (48) hours prior to work being performed that will have an effect on residents and/or businesses. The pre-notification must be in writing and it must include: (1) Contractor name and 24-hour phone number; (2) a description of work being performed; (3) a list of restrictions

on the affected residents and/or businesses; (4) instructions to affected residents and/or businesses. The written notification shall be submitted to the City for approval at least Seven (7) days prior to work beginning.

The Contractor must post "No Parking" signs in appropriate areas no less than 48 hours in advance of any parking restriction. The Contractor will provide pre-approved "No Parking" signs on cardstock for use on the project. The Contractor must coordinate with the City of Grove City on the printing of the signs. The Contractor must insert the days and times of the proposed parking restriction, the reason for the restriction, and the Contractor's contact information on the cardstock sign using black permanent marker. The Contractor must also supply stakes and weather resistant sleeves for installation of signs and to protect the signs from damage caused by weather. The wooden stakes for "No Parking" signs shall be 1-in. x 2-in. x 36-in. The weather proof sleeves shall be 9-in. x 12-in. Staples® Heavyweight Job Ticket Holders (Staples Item No. 812754) or Approved Equal. The weather resistant sleeve with sign shall be fixed to the stake using heavy-duty staples. "No Parking" signs must be installed, maintained, revised (if delays cause an adjustment in parking restriction), and removed by the Contractor. No additional compensation will be paid for resident/business notification or posting required signage.

As set forth herein, the Contractor must provide all notices required under the Contract Documents and Specifications strictly in the manner prescribed therein. The Contractor must defend, indemnify, and hold harmless the City and its officers, employees, representatives, and agents (hereinafter collectively referred to as the "City") against any and all claims, actions, damages, costs, and legal liability of every name and nature that the City may sustain, incur or be required to pay (including, but not limited to, consultant and attorney's fees, disbursements, costs or other expenses) arising out of or in connection with the Contractor's failure to strictly comply with the notice provisions imposed under the Contract Documents and Specifications.

6. **INSPECTION:** No work shall commence until arrangements have been made with the City Engineer and Director of Public Service for inspection services and payment of the inspection fee deposit.
7. **UTILITIES:** The identity and locations of existing underground utilities in the construction area are shown on the approved construction drawings as accurately as provided by the Owner of the underground utility as required by Section 153.64 or Section 3781.27 of the Ohio Revised Code. The City of Grove City assumes no responsibility for the accuracy of locations or depths of underground facilities whether shown on the approved construction drawings or not. When unknown or incorrectly located underground utilities are encountered during construction, the Contractor shall immediately notify the utility owner, the City and the Design Engineer.

The Contractor shall notify the Ohio Utilities Protection Service (OUPS) at (800) 362-2764 at least 48 HOURS, and NO MORE THAN 10 DAYS PRIOR TO excavating, with such time periods not including weekends or holidays. Contractor shall similarly contact all utility owners who are not subscribers to OUPS.

If there are markers or other apparent physical evidence in or near the project area that may indicate the existence of underground petroleum or natural gas pipelines, the

Contractor shall additionally contact the Oil & Gas Producers Underground Protection Service (OGPUPS) at (800) 925-0988. Said notification shall be given a minimum of 48 hours prior to the commencement of construction.

The following utilities are known or can be expected to be located within the limits of this project.

<u>UTILITY</u>	<u>OWNER</u>	<u>TELEPHONE</u>
Water, Sanitary, Storm and Street Lighting Facilities	City of Grove City 4035 Broadway Grove City, Ohio 43123	(614) 277-1100

LIST APPLICABLE UTILITIES

The Contractor is responsible for the investigation, location, support, protection and restoration of all existing utilities and appurtenances whether shown on the plans or not. The Contractor shall proceed with the work and protect all underground utilities in a manner at least as cautious and protective of safety and underground utilities as those methods identified in Sections 3781.25 through 3781.30 of the Ohio Revised Code.

All private utility relocation (gas, electric, phone, etc.) will be the responsibility of the utility owners. The Contractor is responsible for coordinating the relocation and/or protection of any utilities as required by the plan with the owner of the affected utility.

8. **EXPOSE EXISTING UTILITY:** Where potential grade and alignment conflicts might occur with existing utilities, or as specifically called out on the plans, the Contractor shall expose utilities or structures sufficiently in advance of laying pipe for the Design Engineer to verify the vertical and horizontal effect on the proposed construction. Any discrepancy with the plans shall be coordinated with the City to ensure that there are no construction or conflict issues associated with said discrepancy. The cost of this work shall be included in the unit price bid for the various improvement items if a specific bid item is not provided in the estimate of quantities.
9. **CONFLICTS:** In all conflicts in elevation between the water main and gravity sewers, the water main shall be lowered during construction, unless otherwise directed by the City.
10. **HOUSE SERVICE LINES:** The Contractor shall assume that each house has at least one (1) sanitary, one (1) water, and one (1) gas service line unless more are marked by the utility company. It is the Contractor's responsibility to locate and support these service lines. Cost for location and support shall be included in the cost bid for various items. Where service lines are cut or broken, the lines are to be restored to the standards of the utility owner at the Contractor's expense within 12 hours of the cutting or breaking of the service line.
11. **SITE VISIT:** The Contractor shall perform field reconnaissance to become acquainted with the existing site conditions and the potential effects upon the scope of work.
12. **RIGHTS-OF-WAY:** In addition to the direct requirements of the contract specifications, the Contractor shall observe and conform to the specific requirements of all Rights-of-

Way, including easements, court entries, rights-of-entry, or action filed in court in accordance with the code of the applicable governing agency. The cost of the operations necessary to fulfill such requirements shall be included in the price bid for the various items of the contract unless specific provision is made in the contract specifications for such cost under specific Items of the contract.

13. EASEMENTS: Approval of this plan is contingent upon all easements required for the construction of the work being secured and submitted to the City of Grove City for recording prior to commencement of the work, and no work which requires an easement will be allowed to proceed until this has been done.
14. WORK LIMITS: The Contractor is responsible for containing all performed work and all equipment, materials, vehicles, etc., used to complete the work within the rights-of-way of the streets, roadways, temporary easements, permanent easements and the property boundaries of the project improvements, as shown on these plans.

The Contractor is responsible for cost of restoration for any area outside of the right-of-way, permanent easement or project property boundaries to former condition or better and to the satisfaction of the Property Owner and the City.

15. CONTRACT WORK PERFORMED BY THE CITY: In the event that it becomes necessary for the City to perform work of an immediate nature (such as the placement of barricades or replacement of signs or other warning or protective devices) required of the Contractor by this contract because of failure or refusal of the Contractor to perform such work, the Contractor/Developer shall reimburse the City at the rate of 2.5 times the actual cost of labor, materials and equipment necessary to perform such work.
16. CONVENIENCE FACILITIES: The Contractor shall furnish and maintain sanitary convenience facilities for the workmen and inspectors for the duration of the work. Cost shall be included in the price bid for the various items.
17. NON-RUBBER TIRED VEHICLES: No non-rubber tired vehicles shall be moved on City streets, existing private roadways or parking lots. Exceptions may be granted by the City of Grove City, for public roadways only, where short distances and special circumstances are involved. Granting of exceptions must be in writing, and any damage must be repaired by the Contractor to the satisfaction of the City of Grove City.
18. SIGNS, MAILBOXES, FENCES, ETC.: The Contractor shall be responsible for restoring all signs, mailboxes, fences, guardrail, shrubs, property, drainage structures, or other physical features disturbed or damaged during construction, whether shown on the plans or not, to their original or better condition and location and to the satisfaction of the Property Owner and the City of Grove City. Cost to be included in the price bid for the various items.
19. PRUNING: Branches or growth which interferes with the free construction of the project may be removed from trees/bushes that are to be saved by the use of pruning tools with prior approval from the City's Urban Forester. All pruning tools used and methods employed shall meet the approval of the City's Urban Forester. The branches shall be removed with a good clean cut made flush with the parent trunk or, if having a good healthy lateral branch, the cut shall be a good clean slanting cut close to and beyond the

healthy branch. All pruning cuts shall be painted with an accepted pruning preservative. The cost of all work and expenses connected with tree pruning shall be included in the price bid for CMSC Item 201, Clearing and Grubbing. No extra payment shall be made.

Trees damaged or destroyed that were not designated for removal or approved by the City for removal shall be replaced at the Contractor's expense.

20. DEWATERING: The Contractor is solely responsible to the Ohio Department of Natural Resources (ODNR) for registry, maintenance, and abandonment of any withdrawal devices used in the construction of this project.

Installation of any well, well point, pit or other device used for the purpose of lowering the groundwater level to facilitate construction of this project shall be properly abandoned in accordance with the provisions of Section 3745-9-10 of the Ohio Administrative Code or as directed by the Director or his representatives.

The Contractor shall be required to complete and file a Well Log and a Drilling Report Form with ODNR, Division of Water, within 30 days of the completion of installation of any well, well point, pit or other device used for the purpose of removing groundwater from an aquifer, in accordance with Sections 1521.01 and 1521.05 of the Ohio Revised Code. In addition, any such facility that has a capacity to withdraw waters of the State in an amount greater than 100,000 gallons per day from all sources shall be registered by the Contractor with the Chief of the ODNR, Division of Water, within three (3) months of the completion of the facility in accordance with Section 1521.16 of the Ohio Revised Code. Copies of the necessary paperwork can be obtained at ODNR, Division of Water, Fountain Square, Columbus, OH, 43224-1387 – Phone: (614) 265-6717.

The Contractor shall furnish and operate suitable pumping equipment of such capacity, adequate to dewater the trench, should water be encountered. The trench shall be sufficiently dewatered so that the placement of bedding and the laying and joining of pipe is made on firm, dry ground. If dewatering cannot produce acceptable subgrade, and only as directed by the Engineer, unsuitable materials shall be removed and replaced by CMSC Item 906, stone foundation. The cost of any dewatering operations required for the construction of the project improvements shall be included in the price bid for the various improvement items.

The Contractor shall convey all trench water to a natural drainage channel or storm sewer without damage to property. The Contractor shall be responsible to place and maintain the necessary sediment and erosion control measures to filter the dewatering discharge and to prevent erosion at the discharge location. Cost for the above shall be included in the bid price for the various improvement items.

21. REPLACEMENT OF DRAIN TILES AND STORM SEWERS: All drain tile and storm sewers damaged, disturbed, or removed as a result of the Contractor's operations shall be replaced with the same quality pipe or better, maintaining the same gradient as existing. Replaced drain tile shall be laid on compacted bedding equal in density to surrounding stratum. If possible, the drain tile and/or storm sewer shall be connected to a storm sewer structure, curb underdrain or outlet into the roadway ditch as applicable. Replacement shall be done at the time of the backfill operation. Cost of this work to be included in the price bid for the various items.

22. **PAVEMENT CROSSINGS:** For all permitted crossings of existing streets that are to be open to traffic the restoration shall be completed in one of the following manners:
- a. Immediately complete permanent, full-depth pavement repair in accordance with the plan and/or standard details.
 - b. Provide temporary pavement in accordance with ODOT CMS Item 615. The finished surface of the temporary pavement shall be asphalt. Aggregate topped trenches shall not be open to traffic unless directed by the City.
23. **SAW CUTTING:** When saw cutting of pavement (concrete, asphalt, etc.) is necessary, the Contractor shall employ dust collection measures and shall ensure all slurry is cleaned from the roadway immediately after sawing. The Contractor is solely responsible for any damage to private property caused by fugitive dust and slurry.
24. **MAINTAIN DRAINAGE:** The flow in all sewers, drains and watercourses encountered shall be maintained by the Contractor at its own expense, and whenever such watercourses and drains are disturbed or destroyed during the prosecution of the work, they shall be restored by the Contractor at its own cost and expense, unless specific provision is made within the Contract Documents for the measure of and payment for such cost specific items, to a condition satisfactory to the City.
25. **INLET PROTECTION:** The Contractor is responsible to keep all storm sewer inlets protected from excessive amounts of sediments using adequate filtering devices as approved by the City.
26. **EROSION & SEDIMENTATION CONTROL:** The Contractor shall provide sediment control at all points where stormwater runoff leaves the project including waterways, overland sheet flow and storm sewers. Erosion and sediment control shall be provided as per the requirements of the City of Grove City Stormwater Design Manual and the Standards and Specifications of the "Rainwater and Land Development" manual of the ODNR.

The developer shall prepare a Stormwater Pollution Protection Plan (SWP3) for proposed improvements resulting in the land disturbance of one acre or more. The SWP3 shall be prepared in accordance with the general and specific requirements outlined in the City of Grove City Stormwater Design Manual and the OEPA's permit for stormwater discharges associated with construction activity or its subsequent OEPA-issued revision. The SWP3 shall be submitted to the City for review and shall be approved prior to the commencement of land disturbing activities. A copy of the OEPA Notice of Intent (NOI) submission shall be made available to the City.

Erosion control measures are to be installed per NPDES permit regulations or as directed by the City, and are to be maintained until such time that they are no longer required by the permit and the City. Cost for erosion and sedimentation control shall be included in the price bid for CMSC Item 207.

All land disturbing activities shall be subject to inspection and site investigation by the City of Grove City and/or the Ohio EPA. Failure to comply with these regulations is subject to legal enforcement action.

The Contractor is responsible to notify the City of Grove City 48 hours prior to commencement of initial site land disturbance on any site of one (1) or more acres. This includes site clearing, grubbing and any earth moving. Primary erosion and sediment control practices are mandated by regulations to be in place from the beginning of the construction activity.

All disturbed areas resulting from construction activities shall be stabilized in accordance with the temporary and permanent soil stabilization requirements indicated within the City of Grove City Seeding and Mulching General Notes.

It is the Contractor's responsibility to maintain the sediment and erosion control features used on this project. The site shall be inspected at least once every seven calendar days and within 24 hours after any storm event greater than one-half inch of rain per 24 hour period. Records of these inspections shall be kept and made available to jurisdictional agencies if requested. Any sediment or debris which has reduced the efficiency of a structure shall be removed immediately. Should a structure or feature become damaged, the Contractor shall repair or replace it at no additional cost to the Owner.

27. SEEDING AND MULCHING: Seeding and mulching shall conform to the notes contained herein, the requirements of Grove City and CMSC Section 659. In the event of a conflict, the more stringent requirement, determined at the sole discretion of the City of Grove City shall apply. In addition to these requirements, the seeding and mulching shall conform to the following:

Permanent seeding: disturbed areas that are at final grade must be permanently stabilized within seven (7) days of the most recent disturbance. Disturbed areas within 50 feet of a surface water must be permanently stabilized within two (2) days of reaching final grade.

Temporary seeding: disturbed areas that are not at final grade and that will be dormant for more than 14 days shall be temporarily stabilized within seven (7) days of the most recent disturbance. Disturbed areas within 50 feet of a surface water and that will be dormant for more than 14 days shall be temporarily stabilized within two (2) days of the most recent disturbance.

All topsoil shall be of the highest quality and free of all stones, trash, and other deleterious materials greater than 1/4". Before placing topsoil, the disturbed areas shall be free of large rocks and debris (greater than 3" in size). Organic content shall be tested by an approved lab and certified to be between 10-20% by weight. All topsoil shall be saturated with water and allowed to settle prior to seeding. Settled areas shall be refilled and saturated again prior to seeding. The grades shall match all existing landscape and any improvements completed under this plan. The Contractor shall scarify the soil surface to open the soil prior to seeding. All seeding, fertilizer, and mulch shall be placed within five (5) working days of placing topsoil.

All seeding, mulching and fertilizer shall be placed by utilizing hydro-seeding / hydro-mulching methods. Straw shall not be allowed without explicit permission from the City of Grove City. If straw is permitted, it shall be tacked at the time of placement.

REQUIRED PERMANENT SEED MIXES FOR CONSTRUCTION

Option #1 (Seeding Dates: March 1 to September 30)

40% Kentucky Blue Grass
20% Creeping Red Fine Fescue
20% Chewings Fine Fescue
20% Penn Fine Perennial Rye Grass

Option #2 (Fall Seeding Dates After September 30)

30% Kentucky Blue Grass
20% Creeping Red fescue
50% Perennial Rye (Penn Fine, Keystone, or equal)

Fertilizer

12-12-12 at 2- pounds per 1,000 square feet (dry or liquid)

Temporary seeding shall be applied per the specifications provided within the ODNR "Rainwater and Land Development" manual.

28. **SOIL STOCKPILES:** The Contractor shall be responsible for keeping all soil stockpiles, including trench excavation stockpiles, protected from erosion. The areas surrounding the stockpiles are to be protected from sediment with the use of perimeter control devices such as earth or straw bale devices or silt fences. These perimeter control devices must be maintained for the duration of the project.
29. **DISPOSAL OF EXCAVATION:** Unless specifically stated otherwise on the plans, the Contractor must dispose of all excavated material that is not being used as fill at an offsite location. The Contractor must provide a copy of the signed, written agreement between the Contractor and the offsite landowner before disposal occurs. The agreement shall clearly state the purpose of the agreement and indicate the landowner's permission for such use. The cost for disposal of excavated materials shall be included in the Contractor's price bid for the various items of work.
30. **CLEANUP:** The Contractor must be responsible for the immediate cleanup of any debris, mud or dirt tracked or spilled on City and/or public streets or private drives whether inside or outside the project area. The Contractor is responsible for the cost of any services contracted and/or completed by the City of Grove City in the cleanup of any tracking or spillage anytime during project construction. The Engineer may require the Contractor to perform weekly street cleaning if excessive amounts of dirt and mud are left along the street. This may include removal by sweeping, power cleaning, or manual methods. The cost of this work shall be included in the various contract items, unless otherwise specified.

31. **CONSTRUCTION DEBRIS:** All debris, rubble, unusable materials, and items not salvaged by the Owner shall become the property of the Contractor and shall be removed from the site by the Contractor and disposed of properly.
32. **SIGN PAINTING:** All signs located within the public right-of-way (traffic control, advance warning, wayfinding, etc.) must be painted according to this specification. All visible elements of sign mounting systems such as sign back, backing assemblies, support posts, and hardware shall be painted according to Federal Specification 595-B Color #27040 – Black. Painting must be performed under controlled environmental conditions and in accordance with manufacturer's recommendations pertaining to surface preparation, material handling and application. Cost to be included in the price of sign and support post items.
33. **MAINTENANCE OF TRAFFIC NOTES:** All temporary traffic control devices must be furnished, erected, maintained and removed by the Contractor in accordance with the Ohio Manual of Uniform Traffic Control Devices for Construction and Maintenance Operations (current edition), copies of which are available from the Ohio Dept. of Transportation, Bureau of Traffic, 1980 West Broad St., Columbus, OH 43223.

Steady-burning, Type "C" lights must be required on all barricades, drums, and similar traffic control devices in use at night. Cones are NOT approved for use at night.

All trenches within the road right-of-way shall be backfilled or securely plated during non-working hours.

Access to all properties within the project area shall be maintained at all times.

All traffic lanes must be fully open to traffic from 7:00 a.m. to 9:00 a.m. and 4:00 to 6:00 p.m. weekdays on all roadways within the project area. One lane may be closed to traffic during working hours.

FOR MAJOR THOROUGHFARES AND COLLECTORS:

Two-way, one-lane traffic must be maintained during construction operations in accordance with page C-18 of the Ohio Manual. A uniformed officer must be substituted for each flagman shown on that page and such officers shall be present whenever two-way, one-lane operation is in effect.

FOR LOCAL STREETS:

Police Officers are not needed, unless a hazard develops, for two-way, one-lane traffic maintained during construction operations on all local roadways within the project area. If a hazard develops, an off-duty officer may be assigned by the City to the project at the Contractor's expense.

All permanent traffic controls not in conflict with the temporary traffic controls shall be maintained through this project by the Contractor. Permanent traffic controls may be temporarily relocated as approved by the Engineer. The Contractor shall assume all liability for missing, damaged, and improperly placed signs.

Any work done by the City, including installation, modification, removal and/or replacement of permanent traffic control devices as a result of work done by the

Contractor or as a result of the negligence of the Contractor shall be at the expense of the Contractor.

All permanent pavement markings and traffic control signs as shown on this plan shall be installed by the Contractor at the **Developer's** expense. All temporary maintenance of traffic controls, including law enforcement officers and their cars, must be installed by the Contractor at the Developer's expense. The City of Grove City shall be notified a minimum of forty-eight (48) hours (excluding weekends and holidays) prior to the installation of permanent markings to inspect and approve pavement marking layout before markings are placed.

34. **CONCRETE PIPE AND STRUCTURE INSPECTION:** All precast concrete products must be inspected at the location of manufacture. All concrete pipe, storm, and sanitary sewer structures must be stamped or have such identification noting that said pipe, storm, and sanitary structures have been inspected by the City of Columbus and meets their specifications. Installation of pipe and structures without proper identification shall not be permitted. Cost of said inspection shall be the responsibility of the Developer. Invoices shall be submitted to the Construction Representative of Record and paid from the project observation fees.
35. The installation of all sewer pipes on this project shall be in accordance with Section 901 of the CMSC, unless specifically indicated otherwise, with materials conforming to the appropriate referenced section of CMSC or ODOT CMS. Concrete pipe is required for all pipes that are exposed (such as pipes that outlet into drainage basins), regardless of the diameter. The following pipe materials will be permitted for use for public sewers.

STORM SEWER PIPE

Outside of Pavement Limits

Flexible Pipe according to the following specifications:

- Polyvinyl Chloride (PVC) pipe $\leq 15"$ diameter with minimum of four feet (4') coverage and a maximum of 15 feet coverage shall conform to CMSC 720.08 and/or ODOT CMS 707.45.
- High Density Polyethylene (HDPE) pipe from 12" to 36" diameter conforming to CMSC 720.12 and/or ODOT CMS 707.33 with a maximum 20 feet coverage and a minimum two feet (2') coverage.
- Polypropylene (PP) pipe from 12" to 36" diameter conforming to ODOT CMS 707.65 or 707.69 and/or CMSC 720.13 or 720.14 with a maximum 20 feet coverage and a minimum two feet (2') coverage.

Mandrel testing must be performed on all flexible pipe per CMSC 901.21.

Rigid Pipe will be required for all sewers greater than 36" diameter (Reinforced Concrete Pipe CMSC 706.02, Concrete Box CMSC 706.05) and is also permitted on all sewers from 12" to 36" diameter.

Within Pavement Limits

Flexible Pipe according to the following specifications:

- Flexible pipe installation which conforms to ODOT CMS 605 may be used for four inch and 6 inch (4" and 6") underdrain tiles.

- High Density Polyethylene (HDPE) pipe $\leq 36"$ diameter conforming to CMSC 720.12 and/or ODOT CMS 707.33 with a maximum 20 feet coverage and a minimum two feet (2') coverage.
- Polypropylene (PP) pipe $\leq 36"$ diameter conforming to ODOT CMS 707.65 and/or CMSC 720.13 with a maximum 20 feet coverage and a minimum two feet (2') coverage.

Mandrel testing must be performed on all flexible pipe (except underdrains) per CMSC 901.21.

Rigid Pipe will be required for all sewers greater than 36" (Reinforced Concrete Pipe CMSC 706.02. Concrete Box CMSC 706.05) and is also permitted for use on 12" to 36" sewers.

36. **TRENCH BACKFILL:** Trenches within a 1:1 influence of the roadway and/or pavement, including all points to within three feet (3') behind the curb or edge of pavement, must be filled and compacted per Type A backfill. Trenches within the right-of-way, but outside the road influence, must be filled and compacted as per Type B backfill. All other trenches shall be filled and compacted as per Type C backfill at a minimum, or as otherwise indicated within these plans.

All item numbers shown below refer to City of Columbus Construction and Material Specifications (CMSC) item numbers.

Type A backfill shall be granular material, conforming to Item 304, compacted as stipulated in Item 912.03. In all cases granular material shall be used around all manholes, structures and cleanouts. CDF is not permitted unless specifically requested by the City and in such case will be Type I or Type II

Type B backfill shall be natural soil free from stones larger than two inches (2") across their greatest dimension, topsoil, vegetation, debris, rubbish or frozen material, compacted to 95% of its maximum laboratory dry weight and placed per Item 901.17.

Type C backfill shall be natural soil free from stones larger than six inches (6") across their greatest dimension, vegetation, debris, rubbish or frozen material, compacted to 90% of its maximum laboratory dry weight. When approved by the Engineer, rocks no larger than one cubic foot may be deposited at least three feet (3') above the top of the sewer.

Aggregate for bedding shall be No. 57 or No. 8, as per Item 703.

The excavated trench width 12" above the conduit may be increased without extra compensation.

37. **TRENCHES:** All trenches shall be maintained as safe as possible by the Contractor at all times and backfilled as soon as practical. All trenches during non-working hours require traffic plates, and/or lighted barricades and construction fence.

38. **WATER MAIN SEPARATION:** The Contractor shall maintain eighteen inches (18") vertical and 10' horizontal separations between any water main and sanitary or storm sewers.
39. **DEFLECTION TESTING:** All flexible sewers are subject to Mandrel Testing and video inspection as directed by the City Engineer. Testing must be performed no sooner than 30 days after the pipe trench has been backfilled and all roadway and site fills over the sewers constructed. The testing shall be completed in conformance with the requirements of CMSC Item 901.21. Maximum deflection must not exceed five percent (5%) of the base inside diameter. Cost of the testing shall be at the expense of the Contractor.
40. **GRADE CHECKS:** The Contractor must ensure there is a surveyor's level and rod on the project for use in performing grade checks whenever sewer line structures or pipe are being installed. The Contractor must make this equipment available for the use of, and assist, the City Inspector in performing grade checks when requested by the Inspector. The Inspector will make all reasonable attempts to confine requests for assistance in performing grade checks to a time convenient to the Contractor.

These checks will be performed to ensure the following:

- A. Proper placement of each structure.
- B. Proper installation of initial runs of pipe from a structure.
- C. Grade, after an overnight or longer shutdown.
- D. Grade, at any other time the Inspector has reason to question grade of installation.

A grade check performed by the City Inspector in no way relieves the Contractor from the ultimate responsibility to ensure construction to the plan grade.

41. **GRADE CHANGES:** If it is determined that the elevation of the existing sewer, or existing appurtenance to be connected to, differs from the plan elevation or results in a change in the plan sewer slope, the Design Engineer shall be notified before starting construction of any portion of the proposed sewer which will be affected by the variance in the existing elevations.

If it is determined that the proposed sewer will intersect an existing sewer or underground utility if constructed as shown on the plan, the Design Engineer shall be notified before starting construction of any portion of the proposed sewer which would be affected by the interference with an existing facility.

Grades and elevations shown on the plans shall not be revised under any circumstances without first obtaining written approval from the City.

42. **STRUCTURE ADJUSTMENT:** The Contractor shall field verify the top of casting elevation of all proposed manholes. If precast structures are utilized, a minimum of the top 6 inches (6") and a maximum of 12" shall be field placed either with grade rings or brick and mortar to allow for field adjustment.

43. **TEMPORARY BULKHEAD:** The Contractor shall install a temporary bulkhead, where directed on the plans, prior to construction of the proposed sewers and shall maintain same until said sewers are accepted by the City.
44. **CITY WATER:** The Contractor must obtain from the City of Columbus, Division of Water (645-8270) a water usage permit and a fire hydrant permit from the Jackson Township Fire Department (875-5588) prior to connection of its water supply lines to any fire hydrant. The Contractor must provide all the necessary gate valves, backflow preventers, and flow meter for each hydrant location. All equipment, fittings, and valves shall be in accordance with Division of Water Standards. The Contractor must pay for water at the current City Rates. Use of water from fire hydrants and associated fees are outlined in the City of Columbus Rule and Regulation #93.3. A copy of this regulation is available from the Division of Water, Permit Office, (614) 645-7695.
45. **WATER PLAN APPROVAL:** No person shall begin construction or installation of a public water main until the plans have been approved by the State of Ohio Environmental Protection Agency (OEPA).
46. **WATER CONTRACTOR LICENSE:** It shall be unlawful for any person to perform any work on City of Columbus waterline systems without first securing a license to engage in such work, as indicated in Columbus City Code Section 1103.02 and 1103.06. This work includes any attachments, additions to or alterations to any city service pipe or appurtenances (including water service lines and taps). This requirement may be met by utilization of a subcontractor who holds a City of Columbus Water Contractor License or a Combined Water/Sewer Contractor License to perform this work. Utilization of a subcontractor must meet the licensing requirements of City of Columbus Building Code, in particular Section 4114.119 and 4114.529.
47. **INTERRUPTION OF WATER SERVICE:** The Contractor must give written notice to all affected property owners at least 24 hours, but not more than 72 hours prior to any temporary interruption of water service. Interruption of water service shall be held to a minimum and must be approved by the City of Grove City.
48. **WATER MAIN MATERIALS:** All water main material on this project must be in accordance with the 2012 City of Columbus Construction and Material Specifications, 2012 Edition, including all supplements thereto. All water main installation and testing must be in accordance with the current rules and regulations of the City of Columbus, Division of Power and Water.
49. **EXISTING VALVES:** All existing valves must be operated by City of Columbus, Division of Water personnel only, as stated in Chapter 1113 of the Columbus City Code.
50. **WATER MAIN CLEANING AND FLUSHING:** All water mains must be cleaned and flushed in accordance with section 801.13 of the City of Columbus, Construction and Material Specifications. Additionally, water main 12-inch and larger must also be properly pigged.
51. **TESTING PROCEDURE:** All water mains must be hydrostatically tested in accordance with Item 801.14 of the CMSC. 150 PSI of pressure shall be maintained for at least two (2) hours in any tested section. Cost of this work is to be included in the unit price bid

for the respective pipe under CMSC Item 801.

Each valved section of water main shall be tested independently of one another unless otherwise approved by the City Engineer. Pressure test must be conducted with all watch valves open and hydrant foot valves closed.

Any testing performed against existing valves must be at the Contractor's risk and in strict compliance with the requirements of the City. If satisfactory results cannot be obtained against an existing valve, the new line shall be disconnected from the existing valve, plugged and retested. Disconnection from the existing water main and any repairs necessary because of damage caused to the existing lines, valves and service connections shall be at the Contractor's expense.

52. **DISINFECTION:** All water mains must be disinfected in accordance with Section 801.15 of the City of Columbus Construction and Material Specifications (CMSC). Special attention is directed to applicable sections of AWWA C-651, particularly for flushing (Section 5) and for chlorinating valves and fire hydrants (Section 7). The Contractor must be responsible for all costs associated with all water mains constructed under this plan. Representatives of the City of Grove City must be present to witness and inspect the chlorination of all private water distribution mains. It is the Contractor's responsibility to coordinate with the City to schedule the disinfection so that representatives of the City are present to witness.

53. **HAND SWABBING:** The Contractor must hand swab all pipes and fittings that are not otherwise disinfected. The amount of chlorine to be used during hand swabbing operations will be determined by the City of Grove City.

54. **SERVICE TRANSFER AND WATERLINE ABANDONMENT:** Where indicated on plans, the existing waterlines must be abandoned and existing water services off these lines, indicated on the plans and shown by house number, must be transferred to the new waterline.

Prior to abandonment of existing waterlines, the proposed new waterlines must be tested and chlorinated and then the existing services must be transferred to the new waterlines. The Contractor must maintain water service to all water customers affected by transfer of service.

The disposition of all other existing services shown on the plans and not indicated as transfers must be coordinated with the City prior to any action.

To ensure that all existing water services are transferred to the new waterline, no waterline shall be abandoned until all affected water services have been transferred; the new waterline is put in service; and the existing waterline to be abandoned has been shut down for 24 hours.

All visible valve and service boxes on the waterline to be abandoned, which will no longer be in service, must be removed. The required surface restoration must be paid for under the appropriate bid Item(s).

55. **SERVICE CONNECTION PERMITS:** No service connection permits shall be issued or

connection made to any service taps until the waterline has been disinfected by the City of Columbus, Division of Water.

56. **BLOCKING:** All fittings must be adequately restrained with concrete blocking per the City of Columbus standard construction drawings. All fittings to be backed must be thoroughly wrapped in a plastic sheeting prior to placing concrete.
57. **EXISTING PLUGS, CAPS, ETC.:** Plugs and caps removed from existing waterlines must be delivered to the Public Service Department, 3262 Ventura Blvd., Grove City, Ohio, unless otherwise directed by the City. No additional payment will be made for this delivery.
58. **FIRE HYDRANT REPLACED OR RELOCATED:** No existing fire hydrants to be replaced or relocated shall be removed, or taken out of service, until the new waterlines are in service and the new fire hydrants are accepted by the Jackson Township Fire Department.
59. **WATER SERVICES:** Where and as shown on the plans, the water services must be extended from the normal locations of the permanent box and curb stop to its terminus point with Copper Type K and a temporary box set at the end of the extension.
60. **WATER METERS:** All water meters associated with this project must be installed inside the proposed structure unless a meter pit is approved by the Administrator of the Division of Water, City of Columbus. All meter pits must conform to Standard Drawing L-7103, A & B for 5/8" through 1" meters or L-6317, A & B for 1 1/2" or larger meters.
61. **POLYETHYLENE ENCASEMENT:** Contractor must wrap all ductile iron pipe with tube style 8 mil linear low density polyethylene (LLDPE) film made from virgin polyethylene only (no recycled material) per AWWA C-105. The color shall be black with nominal two percent (2%) carbon black UV inhibitor and printed per the AWWA C-105 standard. Installation must be done in accordance with the "Polyethylene Encasement Installation Guide" written by the Ductile Iron Pipe Research Association (DIPRA).

All lumps of clay, mud, cinders, etc., on the pipe surface must be removed before the pipe is covered with polyethylene. When lifting polyethylene-encased pipe use a fabric type sling or padded cable. Joints must be overlapped and taped. Fold excess slack over the top of the pipe and tape every three feet (3'). Small holes or tears must be repaired with a piece of tape placed over the hole. Large holes or tears should be repaired by taping another piece of polyethylene over the hole. To avoid damage during backfilling allow adequate slack in the film tube at joints. Backfill material shall be free of cinders, rocks, boulders, nails, sticks or other material that will damage the polyethylene sleeve.

Appurtenances such as bolted joints, valves, service taps must also be wrapped. For service taps, wrap two/three layers of tape completely around the polyethylene-encased pipe to cover the area where tapping machine will contact the pipe. Install corporation stop directly through the tape and polyethylene. Wrap copper service at least three feet (3') back from installation with tape and additional polyethylene film to prevent electrolysis.

All work necessary to furnish and install the polyethylene encasement shall be included in the price bid for Item 801.

62. All brass fittings associated with water work, including repairs to the existing system, must conform to the **revised allowable lead extraction limit per the updated NSF/ANSI 61 Standard**. The Division of Water's Approved Materials List has been updated to reflect this requirement.
63. Water service boxes must be placed one inch (1") from the edge of the proposed or existing sidewalk between the sidewalk and the curb, or 2 feet (2') inside the right-of-way or easement line when no sidewalk is present or proposed. Refer to Standard Drawing L-9901 for additional information.
64. "Survey Coordinates" must include all material, equipment, and labor necessary to obtain horizontal and vertical (northing, easting, and elevation) survey coordinates for the water main improvements. The survey coordinates must be obtained for the completed water main construction and must include all valves, tees, crosses, bends, deflections, plugs, reducers, tapping sleeves, blow offs, chlorination taps, fire hydrants, air releases, curb stops, casing pipe termini, and other fittings. Additional survey coordinates are required on the water main every 500' where no fitting or other water main structure is being installed within that length of the improvement.
65. All survey coordinates must be referenced to the applicable County Engineer's Monuments, and must be based on the North American Datum of 1983 (NAD 83) with the (NSRS2007) adjustment, with further reference made to the Ohio State Plane South Coordinate System, South Zone, with elevations based on NAVD 88 datum. All coordinates (Northing, Easting, Elevation) must be referenced to the nearest hundredth (N xxxxxx.xx, E xxxxxx.xx, Elev. xxx.xx). All survey coordinates must be accurate to within 1.0 foot horizontal and a tenth of a foot (0.10) or less vertical.
- The coordinates must be documented to the City or designated Representative in digital spreadsheet form and must include the applicable item, station, northing, easting, and elevation. Coordinates shall be submitted to the City or designated Representative on a bi-weekly basis. Coordinates must also be required to be submitted to the Division of Water as part of the request for chlorination.
66. BACKFILL TESTING: Prior to construction of the public roadway, soil density tests must be made on all sanitary sewer and designated storm sewer trenches which cross the proposed pavements or which lie such that the proposed pavements are located within any part of the influence line of said trench. Where said results indicate that the trench backfill does not meet the compaction requirements of Item 912.03 of the Construction and Material Specifications (CMSC), all backfill material must be removed, replaced, and re-tested until compaction meets said requirements of Item 912.03.
67. RECORD PLANS: The Developer is responsible for providing "Record Plan" construction drawings to the City of Grove City after the project has been completed. The plans must include top of casting and invert elevations for all sanitary and storm structures and identify any and all field modifications to, and deviations from, the approved plan set. The plans must also include the installed pipe length and diameter, coordinates of water quality BMP's, and normal pool elevations. Water infrastructure

must be documented on the record drawings in accordance with the current City of Columbus Water Line Record Plan Preparation checklist. A redline set of plans reflecting the "Record Plan" information must be kept by the project Inspector and provided to the City for review. If the redline plans are incomplete or missing information, the Developer must be responsible for supplying the missing information by field survey or other means to facilitate a complete set of record drawings. Upon approval of the redline set the Developer is responsible for submitting an electronically drafted Record Plan set to the City in accordance with City policy.

+++++ END OF SECTION +++++

STREET, STORM, AND WATER SIGNATURE BLOCK

“City of Grove City” signatures on this plan signify only concurrence with the purpose and general location of the project. All technical details remain the responsibility of the engineer preparing the plans.

Mayor
City of Grove City, Ohio

Date

City Administrator
City of Grove City, Ohio

Date

Director of Public Safety
City of Grove City, Ohio

Date

Director of Public Service
City of Grove City, Ohio

Date

Reviewed for the City of Grove City

Date

(IF WORK INVOLVES FIRE PROTECTION LINE, FDC, OR HYDRANTS)

Chief
Jackson Township Fire Department

Date

For the City of Columbus:

Approval on the part of the City of Columbus is given pursuant to the provisions of the Water Service Agreement between the City of Grove City, Ohio and the City of Columbus, Ohio, dated February 5, 2011 and all subsequent amendments thereof.

Administrator, Division of Water
City of Columbus, Ohio

Date

Director, Department of Public Utilities
City of Columbus, Ohio

Date

(IF WORK IS IN FRANKLIN COUNTY RIGHT-OF-WAY)

Franklin County Engineer

Date

Franklin County Chief Deputy Engineer

Date